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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,522	11/05/2001	Rainer Beer	951/49898	1389
23911	7590	02/09/2004	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			GRIER, LAURA A	
			ART UNIT	PAPER NUMBER
			2644	8
DATE MAILED: 02/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.	Applicant(s)	
09/868,522	BEER ET AL.	
Examiner	Art Unit	
Laura A Grier	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on \_\_\_\_\_.
- 2a)  This action is FINAL.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4)  Claim(s) 3-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 3-7 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on 05 November 2001 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

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## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09868522, filed on 6/19/01.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on 6/19/01 has been considered by the examiner.

### *Specification*

3. The abstract of the disclosure is objected to because line 3, recites "fo", the suggested spelling should be -- for --; and line 4 recites "Said", which is legal phraseology. Correction is required. See MPEP § 608.01(b).
4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Objections***

5. Claims 4, 6 and 7 are objected to because of the following informalities: Claims 4 and 7 are dependent upon claim 1, which is a cancelled claim.

Regarding claim 4, for examination purposes and the interpretation of the claim language of claim 3, claim 4 will be examined as dependent upon claim 3. Appropriate correction is required.

Regarding claim 6, line 2, recites "said first amplifier" and line 3, recites "the second amplifier". There is insufficient antecedent basis for dependence of claim 3. By the interpretation of the claim language of claim 5 and claim 6, it is assumed that claim 6 should depend from claim 5. Thus, for examination purposes, claim 6 will be examined as dependent upon claim 5. Appropriate correction is required.

Regarding claim 7, line 2, recites "said first amplifier" and line 3, recites "the second amplifier". There is insufficient antecedent basis for dependence of claim 4. By the interpretation of the claim language of claim 5 and claim 7, it is assumed that claim 7 should depend from claim 5. Thus, for examination purposes, claim 7 will be examined as dependent upon claim 5. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. **Claim 3, 5-6 and 7** are rejected under 35 U.S.C. 102(e) as being anticipated by Milne et al., U. S. Patent No. 5983087.

Regarding **claim 3**, Milne et al. (herein, Milne) discloses a distributed digital signal processing for vehicle audio systems (figures 1-3). Milne's disclosure comprises a radio (10) that includes an optical receiver and a SPDIF receiver (references 40 and 42, and col. 2, lines 64-67 and col. 1), which reads on an audio signal receiver;

amplifiers (76) coupled by a digital data bus which is a fiber optic data link via the connection of the DSP (20) module(s) which is coupled to the receivers (col. 3, lines 18-30 and figure 3), which reads on at least one amplifier connected by an optical wave guide, and each amplifier is coupled to a speaker (22), which reads on a loudspeaker;

and with each amplifier connected to a speaker via crossover filter characteristics, and one of the speakers being a woofer, and additional subwoofer (col. 2, lines 37-44), reads on a separate amplifier provided for low audio frequencies;

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the audio processing of the speakers (col. 3, lines 38-57) and the crossover features (filters) of the speakers, inherently discloses the separate amplifier (amplifier for the low frequency) supplies a high operating voltage than the other frequencies as evident by the fact that a boost (voltage) is provided to the low frequency signals, wherein low frequency signals utilize higher power.

Regarding **claim 5**, Milne et al. (herein, Milne) discloses a distributed digital signal processing for vehicle audio systems (figures 1-3). Milne's disclosure comprises a radio (10) that includes an optical receiver and a SPDIF receiver (references 40 and 42, and col. 2, lines 64-67 and col. 1), which reads on an audio signal receiver;

amplifiers (76) coupled by a digital data bus which is a fiber optic data link via the connection of the DSP (20) module(s) which is coupled to the receivers (col. 3, lines 18-30 and figure 3), which reads on a first amplifier connected by an optical wave guide with the receiver, and a second amplifier connected by another optical wave guide with the receiver;

the speakers (22) are each coupled to an amplifier, wherein the speakers include a woofer, and additional subwoofer (col. 2, lines 37-44), which reads on at least one low frequency speaker coupled to a first amplifier; and

the speakers (22) also include a tweeter (col. 2, lines 37-44), which reads on at least one high frequency speaker coupled to a second amplifier; and

the audio processing of the speakers (col. 3, lines 38-65) and crossover features (filters), inherently discloses the amplifiers supplying different operating voltages as evident by the fact that a boost (voltage) is provided to the low frequency signals, wherein low frequency signals utilize higher power.

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Regarding **claim 6**, Milne discloses everything claimed as applied above (see claim 3). Milne's audio processing of the speakers (col. 3, lines 38-57) and the crossover features (filters) of the speakers, inherently discloses the separate amplifier (amplifier for the low frequency) supplies a high operating voltage than the other frequencies as evident by the fact that a boost (voltage) is provided to the low frequency signals, wherein low frequency signals utilize higher power.

Regarding **claim 7**, Milne discloses everything claimed as applied above (see claim 4). Milne's audio processing of the speakers (col. 3, lines 38-57) and the crossover features (filters) of the speakers, inherently discloses the 1st amplifier (amplifier for the low frequency) supplies a high operating voltage more than the voltage supplied to the 2<sup>nd</sup> amplifier as evident by the fact that a boost (extra voltage) is provided to the low frequency signals, wherein low frequency signals usually utilize higher power.

### *Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Milne in view of the applicant's admitted prior art (herein, AAPA).

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Regarding **claim 4**, Milne discloses everything claimed as applied above (see claim 3). However, Milne fails to disclose the separate amplifier with an operating of at least equal to 42 volt in comparison to 12 volt for the at least one amplifier of the other frequencies.

The AAPA (page 1) discloses that the normal operating voltage is 12 volt for an audio system of the kind, and depending upon the resistance of a speaker and power amplifiers, distortion occurs, and, indicates that a higher voltage may used for the amplifier to avoid distortion. Thus, given the situation of having two or more amplifiers of different operating voltages, a higher voltage for low frequencies, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Milne by providing a varied difference in the power voltages of the amplifiers, wherein the amplifier powering the low audio frequencies would have a voltage high enough, like 42 volt or a higher voltage as desired to eliminate harmonic distortions, which occur among low frequencies signals, and interferences and other common noise transients to provide an optimally desired audio signal over a wide frequency range.

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

**Any response to this action should be mailed to:**



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Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG *Laura A. Gue*  
February 4, 2004